

**SILICON-ON-INSULATOR DEVICES AND METHODS FOR FABRICATING THE
SAME**

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ABSTRACT

Techniques for local and selective thinning of silicon using a combination of real time metrology for film thickness measurement accompanied by local etching of the silicon to thin the silicon to the desired value. Etching is accomplished using a miniature plasma etcher with activated etch gases. The etch tool and the metrology tool are stepped across the wafer surface to achieve wafer level thinning of the top silicon.